

REMARKS

In response to the Notice to File Corrected Application Papers mailed on May 31, 2001, Applicant submitted and filed substitute drawings in compliance with 37 C.F.R. § 1.84 on July 26, 2001.

In the substitute drawings, Figures 6, 24, 28 and 29 were divided into multiple drawings for convenience, and Figures 18, 25, 26 and 27 were divided into additional multiple drawings for this same reason. The changes to the drawings necessitated amending the references to the drawings in the specification in order to bring the specification into harmony with the drawings. Therefore, the specification has been amended and corrected throughout the application to clarify and consistently refer to Figures 6, 18 and 24 through 29. Applicant respectfully submits that the correction of the references to the drawings in the specification adds no new matter to the present application.

Applicant corrected an inadvertent error on page 26, line 14, by adding the phrase "at step 2" between the words "604" and "and". Applicant respectfully submits that this correction adds no new matter to the present application.

Finally, Applicant corrected a typographical error in the paragraph beginning at page 8, line 15, and ending at line 18, by changing "Oobject" to "object".

Applicant respectfully requests the entry and approval of the foregoing amendments prior to examination.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein.

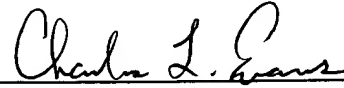
No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was a narrowing amendment made to distinguish over a specified reference or references.

The Commissioner is hereby authorized to charge payment of any additional filing or application fees associated with this communication or credit any overpayment to Deposit Account No. 13-4365.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

If there are any questions regarding these amendments, please do not hesitate to contact us.

Respectfully submitted,



Dated: August 27, 2001

Charles L. Evans
Attorney for Applicants
Registration No. 40,380
Moore & Van Allen PLLC
2200 West Main Street, Suite 800
Durham, NC 27705
Telephone: (919) 286-8000
Facsimile: (919) 286-8199

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The paragraph beginning at page 6, line 20, and ending at line 21, has been amended as follows:

FIG. 6 illustrates a method of distributing and federating metadata across a distributed network according to an embodiment of the invention.

FIG. 6 is divided into Figures 6-A and 6-B for convenience.

The paragraph beginning at page 8, line 6, and ending at line 8, has been amended as follows:

FIG. 18 is an activity diagram depicting the flow of events involved in utilizing a push agent to send data to the server in one embodiment of the invention. FIG. 18 is divided into Figures 18-A through[and] 18-C[18-B] for convenience.

The paragraph beginning at page 8, line 15, and ending at line 18, has been amended as follows:

FIG. 22 is a block diagram, which illustrates the structure used and method for analyzing patient demographic data and correlating it against existing information to create or update a universal person object[Oobject] according to one embodiment of the invention.

The six paragraphs beginning at page 9, line 1, and ending at line 17, have been amended as follows:

FIG. 24 provides an XML document type definition (DTD) used to describe the message envelope and the payload containers transmitted to the system in the write metadata transaction. FIG. 24 is divided into Figures 24-A and 24-B for convenience.

FIG. 25 provides the XML DTD used to describe the data transmitted in the write metadata transaction. FIG. 25 is divided into Figures 25-A through 25-J[25-G] for convenience.

FIG. 26 provides the XML DTD used to describe the data transmitted in delete metadata transaction according to one embodiment of the invention. FIG. 26 is divided into Figures 26-A through 26-F[26-D] for convenience.

FIG. 27 provides the XML DTD used to describe the data transmitted in merge metadata transaction according to one embodiment of the invention. FIG. 27 is divided into Figures 27-A through 27-J[27-G] for convenience.

FIG. 28 illustrates the class hierarchy for a universal person object for identifying and finding patients, their providers and the organizations that have provided treatment according to one embodiment of the invention. FIG. 28 is divided into Figures 28-A and 28-B for convenience.

FIG. 29 is a detailed sequence diagram showing how queries are processed according to one embodiment of the invention. FIG. 29 is divided into Figures 29-A and 29-B for convenience.

The paragraph beginning at page 26, line 7, and ending at line 16, has been amended as follows:

FIG. 6 extends the functionality described above to allow federation of identifiers across multiple domains. FIG. 6 is divided into Figures 6-A and 6-B for convenience. In this schema, a local exchange server, 604,

correlates patients across a number of systems within a local domain. At step 1 information is sent to the local server by a clinical system such as a pharmacy system, 601, a laboratory system, 602, or a radiology system, 603. A local universal person object is created and then forwarded to the parent, the domain exchange server, 606, in its hierarchy. The parent can receive data from multiple local exchange servers such as shown at 605. The parent now knows that it can query local exchange server 604 at step 2 and ask for information about a patient and the local exchange server will subsequently query each of its subsystems to find records for the patient.

The paragraph beginning at page 38, line 3, and ending at line 12, has been amended as follows:

FIG. 18 is a sequence diagram describing how an external clinical system requests service from the exchange. FIG. 18 is divided into Figures 18-A, 18-B and 18-C[18-B] for convenience. The last horizontal line on FIG. 18-A is the same line as the first horizontal line on FIG. 18-B, and the last horizontal line on FIG. 18-B is the same line as the first horizontal line on FIG. 18-C. By "external clinical system" we mean a system used by a health care provider that is supplying data to the

exchange system. The external system can also be one that requests data from the exchange. This example demonstrates the method by which the data would be sent to the exchange. The example illustrates the loosely coupled nature of the exchange architecture. Loosely coupled systems do not have hard coded linkages between them, but rely instead on a communications protocols and standards to achieve their associations.

The five paragraphs beginning at page 48, line 1, and ending at line 20, have been amended as follows:

FIG. 24 provides an example XML document type definition (DTD). This DTD is used to describe the message envelope and the payload containers transmitted to the system in a "write metadata" transaction. FIG. 24 is divided into Figures 24-A and 24-B for convenient viewing.

FIG. 25 provides an example XML DTD used to describe the data transmitted in a "write metadata" transaction. FIG. 25 is divided into Figures 25-A through 25-J[25-G] for convenient viewing.

FIG. 26 provides an example XML DTD used to describe the data

transmitted in "delete metadata" transaction. FIG. 26 is divided into Figures 26-A through 26-F[26-D] for convenient viewing.

FIG. 27 provides an example XML DTD used to describe the data transmitted in "merge metadata" transaction. FIG. 27 is divided into Figures 27-A through 27-J[27-G] for convenience.

FIG. 28 illustrates the class hierarchies for the entities associated in the exchange server for identifying and finding patients, their providers and the organizations that have provided treatment. FIG. 28 is divided into Figures 28-A and 28-B for convenience. The last horizontal line on FIG. 28-A is the same line as the first horizontal line on FIG. 28-B. This hierarchy defines the universal person object that establishes patient identity in the exchange. Rather than rely on a generated or artificial identifier or key, the exchange relies on the rich set of demographic data and history that becomes a universal person object. This class hierarchy allows the exchange to capture several complex relationships between a person and the many attributes that are a part of the person.

The paragraph beginning at page 50, line 5, and ending at line 10, has been amended as follows:

In addition to the capability to receive patient demographic data or locator information, it is necessary to answer queries that will use the correlated and processed data. FIG. 29 describes the mechanism for processing a query to find where a patient has been seen and what records might be available for that patient. FIG. 29 is a sequence diagram describing details of how an external clinical system requests a location from the exchange. FIG. 29 is divided into Figures 29-A and 29-B for convenience. The last horizontal line on FIG. 29-A is the same line as the first horizontal line on FIG. 29-B.